



US Army Corps
of Engineers
Seattle District

Chief Joseph Dam

Gas Abatement Flow Deflectors





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Project Purpose

- The purpose of the Chief Joseph Dam Gas Abatement Study is to implement a solution for reducing Total Dissolved Gas (TDG) contributions from Chief Joseph Dam, to the extent economically, technically, and biologically feasible.



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Project Authority

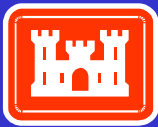
- Authority for the Chief Joseph Dam Gas Abatement Study and any subsequent construction is provided by the Fish and Wildlife Coordination Act. The 2000 BiOp identified actions to be taken to avoid jeopardizing steelhead populations, that included the following:
 - ◆ “The Action Agencies, in coordination with National Marine Fisheries Service and the Regional Forum, shall jointly investigate operational and structural gas abatement measures at Grand Coulee and Chief Joseph Dams as part of the system-wide evaluation of gas abatement measures.”



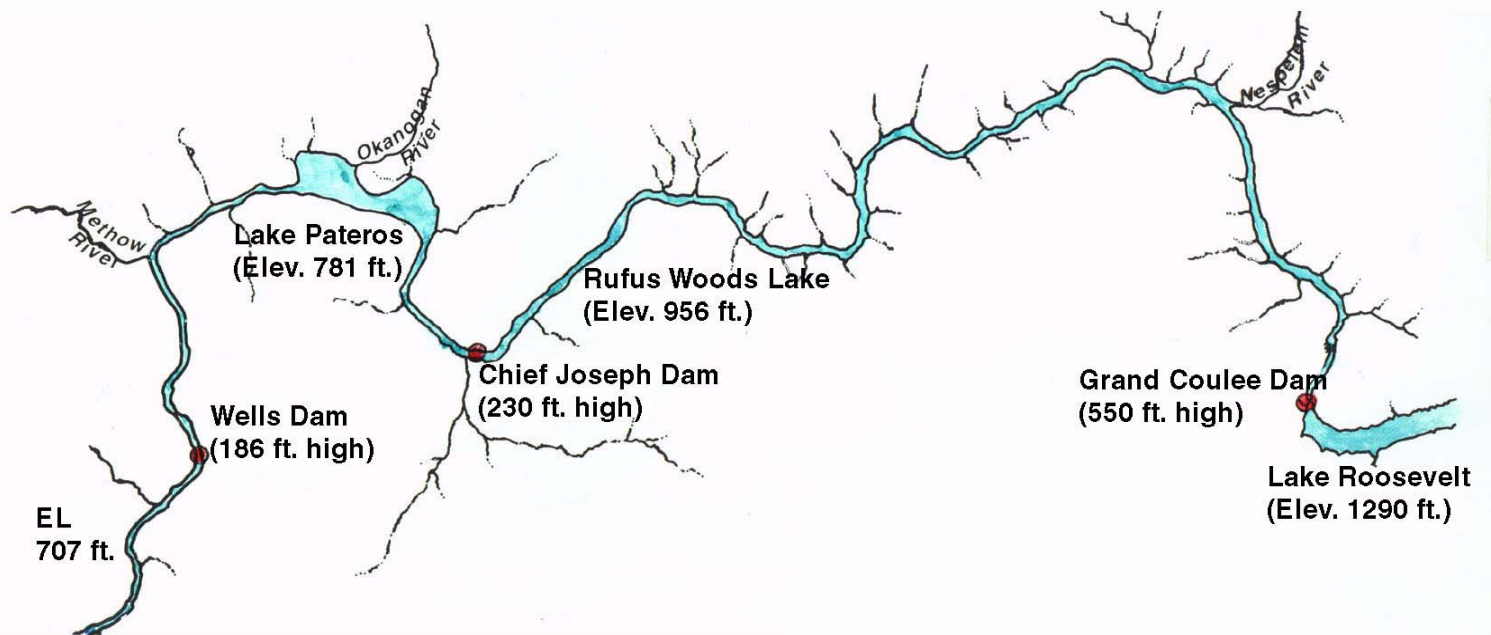
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What is this project?

- The proposed Construction project to add flow deflectors to each of the 19 spillways at Chief Joseph Dam for the purpose of abating gas. Combined with Generation Spill Swap of Grand Coulee and Chief Joe only during spill conditions.
- The current estimated construction cost is **\$32** million over three construction seasons.



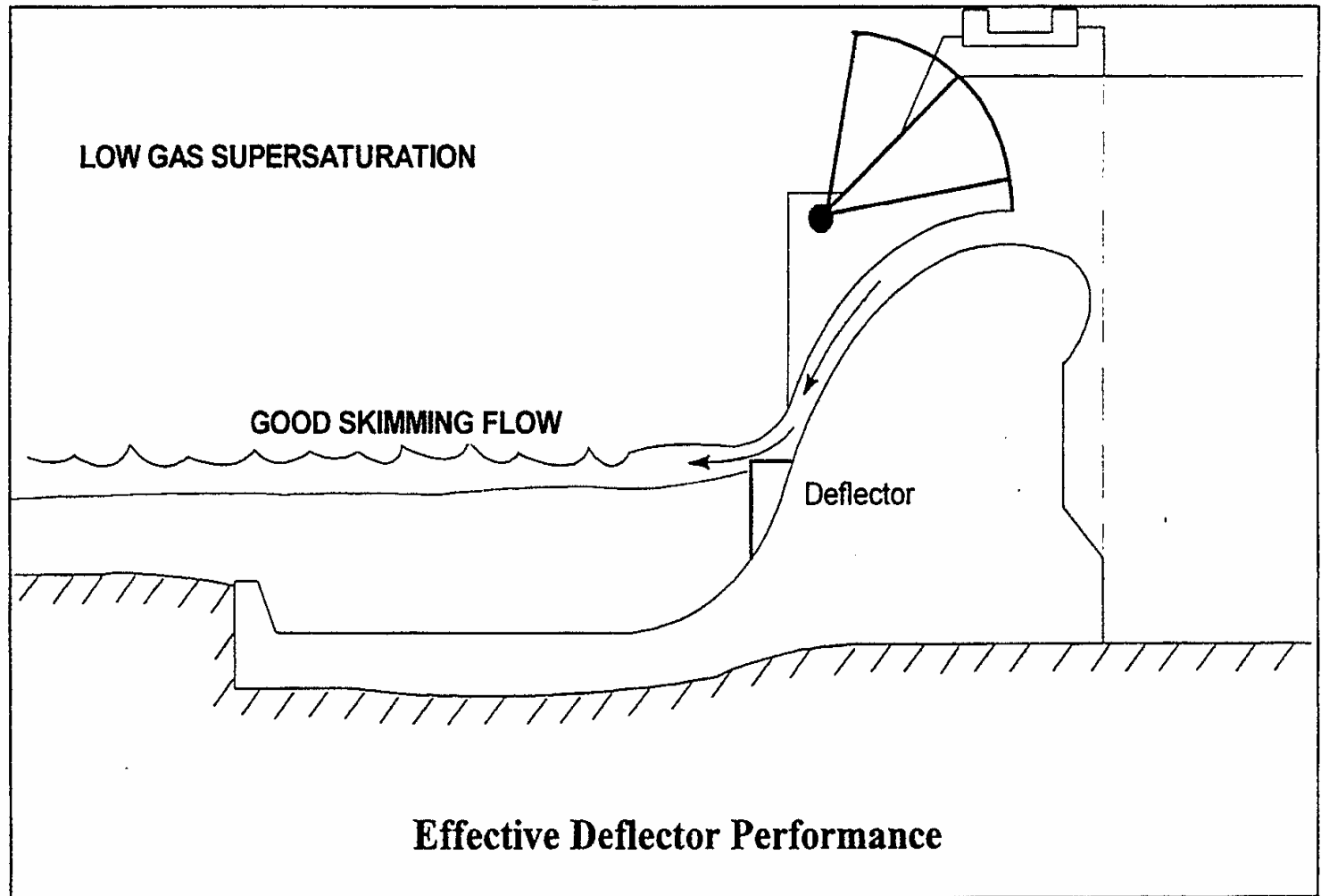
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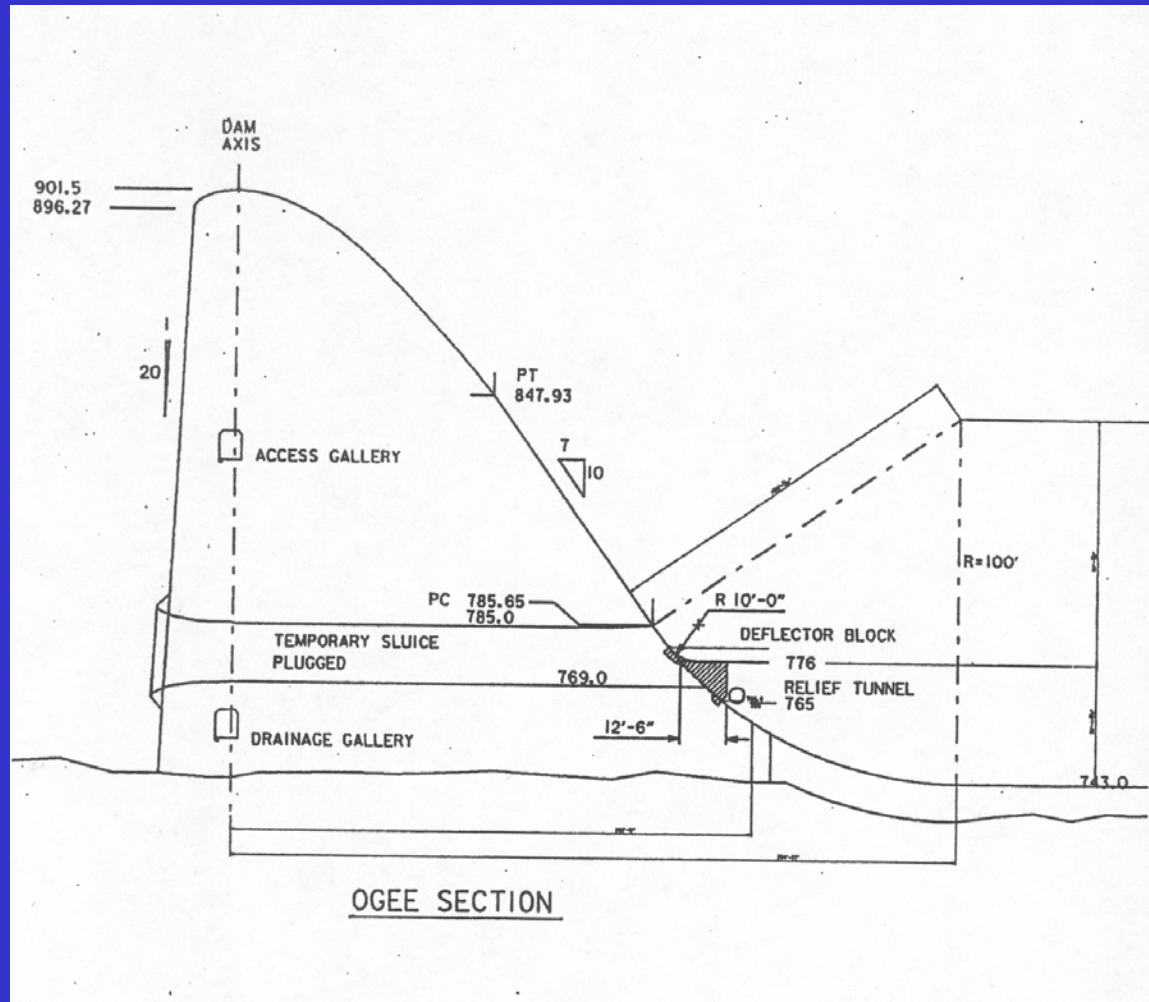
Effective Deflector Performance





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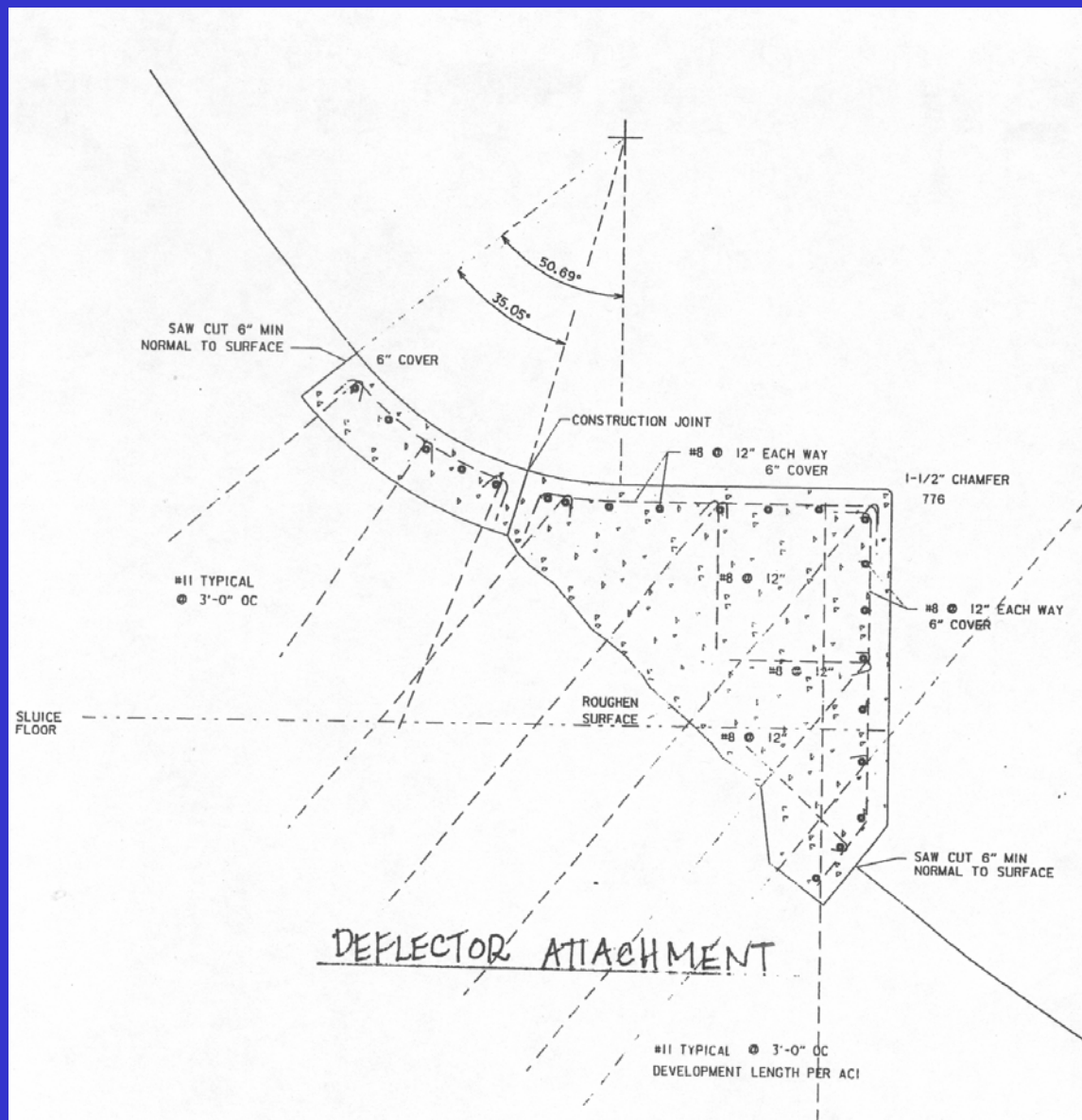
Flow Deflector Final Design





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Flow Deflector Final Design





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Status

- The CJD GA project is considered an important hydrosystem re configuration project:
 - ◆ Significantly reduces Grand Coulee TDG
 - ◆ Significantly reduces Chief Joseph TDG
- CJD GA Project has been approved by HQs. Received funding from Congressional add in 2003.
- Currently in the President's 2004 Budget.
- District capability for 1.6 mil in FY04 to begin potential dam mitigation projects and construction staging.



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Project Scope

- The scope of the project has two phases:
 - ◆ I) Conduct Engineering and Design/ produce plans and specs
 - Design of flow deflectors
 - Additional modeling and analysis to look at dam safety concerns
 - Design of right bank protection from overspray
 - Design of other features to mitigate for dam safety concerns.
 - ◆ II) Construction/implementation of the project.



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Project Scope

Phase I: This phase begins with the approval of the Construction General (CG) new start. This phase includes the engineering and design. It is during this phase that the design/plans&specs will be completed and the contract award of the project will be accomplished. This phase is scheduled to be completed in approximately 17 months of receiving funding. Funding was received at the end of April 2003.



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Project Scope

Phase II: Construction of 19 flow deflectors will be accomplished in this phase of the project. This phase of the project is scheduled to be conducted in three construction seasons.



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Project Schedule

Description

Design Phase

Schedule (Current)

April 2003 – Sept 2004

**Construction of Dam Mitigation
Projects**

July – October 2004

**Construction of Staging Area
1ST Year of Construction
2ND Year of Construction
Final Year of Construction
(if required)**

**August - September 2004
Feb 2005 – February 2006
July 2006 – February 2007
July 2007 – November 2007**

Project Closeout

December 2007



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